



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee - Transport Airplane Performance and Handling Characteristics - Continuing a Task

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of phase 2 task assignment for the Aviation Rulemaking Advisory Committee (ARAC).

SUMMARY: The FAA assigned the Aviation Rulemaking Advisory Committee (ARAC) a new phase 2 task to provide recommendations regarding new or updated standards in the highest priority topic areas for airplane performance and handling characteristics. This task addresses the Flight Test Harmonization Working Group's recent recommendations. This notice informs the public of phase 2 ARAC activity and does not solicit membership for the existing Flight Test Harmonization Working Group (FTHWG).

FOR FURTHER INFORMATION CONTACT: Joe Jacobsen, Airplane & Flight Crew Interface Branch, ANM-111, Transport Airplane Directorate, Federal Aviation Administration, 1601 Lind Avenue SW, Renton, Washington 98057-3356; telephone 425-227-2011, facsimile 425-227-1149; email joe.jacobsen@faa.gov.

SUPPLEMENTARY INFORMATION:

ARAC Acceptance of Task

As a result of the March 20, 2014, ARAC meeting, the FAA has assigned and ARAC has accepted this task and will use the existing FTHWG. The FTHWG will serve as staff to ARAC and provide advice and recommendations on the assigned task. ARAC will review and approve the recommendation report that will be sent to the FAA.

Background

The FAA established ARAC to provide advice and recommendations to the FAA Administrator, through the Associate Administrator of Aviation Safety, on the FAA's rulemaking activities. ARAC's objectives are to improve the development of the FAA's regulations by providing information, advice, and recommendations related to aviation issues.

The FTHWG will provide advice and recommendations to ARAC on new and updated standards for the highest priority topic areas for airplane performance and handling characteristics.

In March 2013, the FAA tasked ARAC to provide advice and recommendations in prioritizing potential topic areas for the development of new or revised standards for airplane performance and handling characteristics in new transport category airplanes. The output of that task is now complete and is the basis for this new task. The highest priority topic areas were determined to be new or updated standards for fly-by-wire (FBW) flight controls, wet runway stopping performance, runway excursion hazard classification, stall speed in ground effect, steep approach, flight test methods used to determine maximum tailwind and crosswind capability, susceptibility to pilot-induced oscillations/airplane-pilot coupling (PIO/APC), and guidance material for assessing handling qualities. This task will be to develop these high priority topic areas.

The Task

The working group should develop recommended standards in the following topic areas. If there are disagreements within the working group, these should be documented, including the reasons for the disagreement and rationale from each party. The following subject areas should be worked upon within this task:

1. Fly-by-wire Flight Controls. Regulatory requirements and associated guidance material for airworthiness certification of airplane designs using fly-by-wire technology to remove the need for longstanding, repetitively-used fly-by-wire special conditions. Specific areas include:

- a. Applicability/adaptation of Amendment 25-121 airplane performance and handling characteristics in icing conditions requirements,
- b. Lateral/directional/longitudinal stability,
- c. Out of trim requirements,
- d. Side stick controls, and
- e. Flight envelope protection.

2. Takeoff and Landing Performance. Regulatory requirements and associated guidance material for airworthiness certification in the following areas listed below. (Note: This topic area excludes items addressed by the Takeoff and Landing Performance Assessment Aviation Rulemaking Committee.)

- a. Flight test methods used to determine maximum tailwind and crosswind capability. For crosswind testing, better define intended operational use of demonstrated maximum steady and gusting crosswind performance.
- b. Wet runway stopping performance. Recent landing overruns on wet runways have raised questions regarding current wet runway stopping performance requirements and methods. Analyses indicate that the braking coefficient of friction in each case was significantly lower than expected for a wet runway (i.e., lower than the level specified in FAA regulations). Consideration should also be given to the scheduling of landing performance on wet porous friction course and grooved runway surfaces. Recommendations may include the need for additional data gathering, analysis, and possible rulemaking.

- c. Steep approach landing performance. Current airplane certification standards are not harmonized among the U.S., Canadian, Brazilian, and European airworthiness authorities.
- d. Guidance material addressing the adverse effects on stall speed in ground effect.
- e. Runway excursion hazard classification. Current safety assessments are not harmonized among the U.S., Canadian, Brazilian, and European airworthiness authorities.

3. Handling Characteristics. Guidance material for airworthiness certification in the following areas:

- a. Guidance material for assessing handling qualities. Current Advisory Circular 25-7, “Flight Test Guide for Certification of Transport Category Airplanes,” provides an FAA Handling Quality Rating Method that is intended to provide a systematic way of determining appropriate minimum handling qualities requirements and evaluating those handling qualities for-conditions affecting an airplane's flying qualities. The FAA handling quality rating system is not universally accepted within industry, nor is it accepted by EASA.
- b. Guidance for assessing susceptibility to pilot-induced oscillations/airplane-pilot coupling (PIO/APC). Guidance provided in Advisory Circular 25-7C for evaluating PIO/APC is also not well accepted by airplane manufacturers, is not harmonized with EASA, and has been superseded to some extent in recent certification programs. Modified guidance is needed to both simplify and standardize the methods for evaluating an airplane's susceptibility to PIO/APC.

Schedule

The recommendation report must be submitted to the FAA for review and acceptance no later than 3 years from the publication date of this tasking. The FAA expects to publish additional ARAC taskings for follow-on phases to develop other topic areas which were lower in priority.

Working Group Activity

The FTHWG must comply with the procedures adopted by ARAC. As part of the procedures, the working group must:

1. Conduct a review and analysis of the assigned task and any other related materials or documents.
2. Draft and submit a work plan for completion of the task, including the rationale supporting such a plan, for consideration by the Transport Airplane and Engine (TAE) Subcommittee.
3. Provide a status report at each TAE Subcommittee meeting.
4. Draft and submit the recommendation report based on the review and analysis of the assigned tasks.
5. Present the recommendation report at the TAE Subcommittee meeting.

Participation in the Working Group

The existing FTHGW is comprised of technical experts having an interest in the assigned task. A working group member need not be a representative or a member of the full committee. In accordance with the June 18, 2010, memorandum entitled “Lobbyists on Agency Boards and Commissions,” members are not federally registered lobbyists, who are subject to the registration and reporting requirements of the Lobbying Disclosure Act of 1995 (LDA) as amended, 2 U.S.C 1603, 1604, and 1605, at the time of appointment or reappointment to an advisory committee, and has not served in such a role for three consecutive quarters prior to appointment. (For further

information see the Office of Management and Budget final guidance on appointment of lobbyists to federal boards and commissions (76 FR 61756, October 5, 2011).

All existing FTHWG members who wish to participate in this task must actively participate by attending all meetings, and providing written comments when requested to do so. Each member must devote the resources necessary to support the working group in meeting any assigned deadlines. Each member must keep their management chain, and those they may represent, advised of working group activities and decisions to ensure the proposed technical solutions do not conflict with their sponsoring organization's position when the subject is presented to ARAC for approval. Once the FTHWG has begun deliberations, members will not be added or substituted without the approval of the FAA and the Working Group Chair.

The Secretary of Transportation determined the formation and use of ARAC is necessary and in the public interest in connection with the performance of duties imposed on the FAA by law.

ARAC meetings are open to the public. However, meetings of the FTHWG are not open to the public, except to the extent individuals with an interest and expertise are selected to participate. The FAA will make no public announcement of FTHWG meetings.

Issued in Washington, DC, on April 8, 2014.

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Aviation Rulemaking Advisory Committee.

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